II.   AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims of the application.

1.   (Currently Amended) A method of verifying a data preparation for an article, constructed of a plurality of design layers, for use in creating a product, the data preparation being stated in terms of an instruction algorithm, the method comprising the steps of:

restating the instruction algorithm in terms of at least two fundamental algorithms;

creating a graphical representation for each fundamental algorithm;

combining the graphical representations corresponding to each fundamental algorithm according to the restated instruction algorithm to form a combined graphical representation; and

computationally determining whether the data preparation is correct based on the combined graphical representation.

2.   (Original) The method of claim 1, wherein the step of restating includes organizing the instruction algorithm according to group theory operators.

3.   (Original) The method of claim 1, wherein the step of determining includes determining a polarity of the product.

4   (Original) The method of claim 3, further comprising the step of inverting the combined graphical representation prior to the determining step.

5.   (Original) The method of claim 1, wherein the step of restating is a reiterative process.

09/683,712   2

6.   (Original) The method of claim 1, wherein the article is for one of: an etching and a

mask.

7.   (Original) The method of claim 1, wherein the article includes a plurality of discrete

segments for which verification is performed.

8   (Original) The method of claim 1, wherein the determining step includes implementing

the combined graphical representation and comparing the result to the article.

9   (Original) The method of claim 1, wherein the determining step includes comparing the

combined graphical representation to the article.

10.   (Currently Amended) A system for verifying a data preparation for an article, constructed

of a plurality of design layers, for use in creating a product, the data preparation being stated in

terms of an instruction algorithm, the system comprising:

        means for restating an the instruction algorithm representative of the data preparation for

the article in terms of at least two fundamental algorithms;

        means for creating a graphical representation for each fundamental algorithm;

        means for combining the graphical representations corresponding to the at least two

fundamental algorithms to form a combined graphical representation; and

        means for computationally determining whether data preparation is correct based on the

combined graphical representation.

09/683,712   3

11.   (Original) The system of claim 10, wherein the means for determining implements the combined graphical representation and compares the result to the article.

12.   (Original) The system of claim 10, wherein the means for determining compares the combined graphical representation to the article.

13.   (Currently amended) A computer program product comprising a computer useable medium having computer readable program code embodied therein for verifying a data preparation for an article, constructed of a plurality of design layers, <u>for use in creating a product, the data preparation being stated in terms of an instruction algorithm,</u> the program product comprising:

program code configured to restate ~~an~~ <u>the</u> instruction algorithm representative of the data preparation for the article in terms of at least two fundamental algorithms;

program code configured to create a graphical representation for each fundamental algorithm;

program code configured to combine the graphical representations corresponding to the at least two fundamental algorithms to form a combined graphical representation; and

program code configured to determine whether the data preparation is correct based on the combined graphical representation.

14.   (Original) The program product of claim 13, further comprising program code configured to determine a polarity of the product.

09/683,712   4

15. (Original) The program product of claim 14, further comprising program code configured to invert the combined graphical representation.

16. (Original) The program product of claim 13, wherein the article includes a plurality of discrete segments for which verification is performed.

17. (Original) The program product of claim 13, determine implements the combined graphical representation and compares the result to the article.

18. (Original) The program product of claim 13, wherein the program code configured to determine compares the combined graphical representation to the article.

09/683,712   5